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10/583,692	06/20/2006	Duccio Marco Gasparri	40593	3512

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EXAMINER	
FU, HAO	
ART UNIT	PAPER NUMBER
3696	

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/583,692	GASPARRI, DUCCIO MARCO	
	Examiner	Art Unit	
	HAO FU	3696	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *20 June 2006*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *20-38* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *20-38* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *09/25/2006*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Foreign Priority

The present application is a 371 of PCT/EP04/14538 filed on 12/21/2004. Benefit of earlier filing date is granted since the present application is filed within 18 months following the filing of PCT application.

Claim 1-19 are canceled by the applicant.

Claim Objection

Claim 27 and 28 are objected for the following informality: the meaning and purpose of "(included)" is unclear.

Claim 35 and 36 are objected for the following informality: the claim language shall not refer back to the drawing.

Claim Rejection – USC 112

The following is a quotation of the first paragraph of 35 U.S.C. 112:

> The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claim 22-28 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the

invention. Claim 22-28 include abstract concept and formula, which do not enable one of ordinary skill in the art to calculate interests for entrustments of money.

The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claim 20, 35, 29 and 30 are rejected under U.S.C. 112 2nd paragraph.

Claim 20 and 35 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Specifically, claim 20 and 35 both claim to calculate interests for entrustments of money in the preamble, but both claims fail to teach calculating interests for entrustments of money in the claim body. As in claim 20, the result of the procedures is actually the quantity of money asked from borrower which allows the lender to obtain an average return. As in claim 35, the claim merely disclose some memory blocks and an calculation block, which can be any calculator, yet does not teach how to calculate interest for entrustments of money.

Regarding claim 29 and 30, the phrase "such as" renders the claim indefinite because it is unclear whether the limitations following the phrase are part of the claimed invention. See MPEP § 2173.05(d).

Claim Rejection – USC 101

35 U.S.C. 101 reads as follows:

> Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

Claim 20 is rejected under 35 U.S.C. 101 because the claimed invention lacks patentable utility. Claim 20 merely disclose an equation B= K+M+L. The result is different from what the claim intend to calculate. Furthermore, the claim is merely a repackage of a simple summation mathematical formula.

For a claimed invention to be statutory, the claimed invention must produce a useful, tangible and concrete result. An invention which is eligible for patenting under 35 U.S.C 101, is in the "useful arts" when it is a machine, manufacture, process or composition of matter, which produces a useful, concrete and tangible result. The fundamental test for patent eligibility is thus to determine whether the claimed invention produces a useful tangible and concrete result. See AT&T v. Excel Communications Inc., 172 F.3d at 1358, 50 USPQ 2d at 1452 and State Street Bank & Trust Co. v. Signature Financial Group, Inc., 149 F.3d at 1373, 47 USPQ 2d at 1601 (Fed. Cir. 1998). The test for practical application as applied by the examiner involves the determination of the following factors.

a) "useful" – The Supreme Court in Diamond v. Diehr requires that the examiner look at the claimed invention as a whole and compare any asserted utility with the claimed invention to determine whether the asserted utility is accomplished. Applying utility case law the examiner will not that:

i. utility need not be expressly recited in the claims, rather it may be inferred.

ii. if the utility is not asserted in the written description, then it must be well established.

b) "tangible" – Applying In re Warmerdam, 33 F.3d 1354, 31 UAPQ 2d 1754 Fed. Cir. 1994), the examiner will determine whether there is simply a mathematical construct claimed, such as a disembodied data structure and method of making it. If so, the claim involves no more than manipulation of an abstract idea and is, therefore, nonstatutory under 35 U.S.C 101. In Warmerdam, the abstract idea of a data structure became capable of producing a useful result when it was fixed in a tangible medium, which enabled its functionality to be realized.

c) "concrete" – Another consideration is whether the invention produces a "concrete" result. Usually, this question arises when a result cannot be assured. An appropriate rejection under 35 U.S.C 101 should be accompanied by a lack of enablement rejection, because the invention cannot operate as intended without undue experimentation.

As per claim 20, the invention also fails the tangible test, since the claim is merely a repackage of a simple summation mathematical formula. Applicant admits that the present invention is "basically composed of a mathematical formula and of the steps to solve it" (see specification page 2). Applicant also implies that the present invention is only a theory and not a practical application (see page 2 and 3 of the specification, especially "The ERI works under the hypothesis that the transfer of money from the borrower to the lender is limited between established lower and upper values). The claim involves no more than manipulation of an abstract idea and is, therefore, nonstatutory under 35 U.S.C 101.

As per claim 37, the claimed invention is directed to non-statutory subject matter. Computer program does not fall under one of the four statutory subject matters.

Since claims 21-34, 37 and 38 depend on claim 20, claims 21-34, 37 and 38 are also rejected under U.S.C. 101.

Examiner's decision on patentability is supported by the PCT International Preliminary Report on Patentability. The written opinion indicates that claim 1-19 have no novelty, no inventive step, and no industrial applicability. Examiner notes that claim 1-19 are exactly the same as claim 20-38. Therefore, the written opinion applies to claim 20-38 as well. Applicant is advised to consider the opinion of the PCT International Preliminary Report.

Claim Rejection – USC 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claim 20 is rejected under 35 U.S.C. 103(a) as being unpatentable over UNA (UNA McCaffrey, Be wary of interest-only, Jun 27, 2002, Irish Times, pg. 58), in view of Ronald (Ronald Field, Mysteries revealed in buying a home, Oct 23, 1994, The Salt Lake Tribune, pg. F.4).

As per claim 20, UNA teaches a procedure for the calculation of interests for entrustments of money (K) comprising the following steps:

memorization of quantities of money K indicative of the possible amounts of credit granted (see third paragraph of full text, the "capital balance owed" is the same as money K, because they both indicate the amounts of money granted to borrower);

memorization of an additional remuneration M indicative of the requirements of the lender for granting the loan (see third paragraph of full text, "interest" is the same as M; applicant states that M is interest in specification on page 3);

mathematical combination, according to a given formula, of the aforementioned quantity of money K, extra yield M, in order to obtain a quantity of money B that, asked of the borrower, allows the lender to obtain an average return of (K+M) (see third paragraph of full text, "repayments are comprised of two different elements: part of the capital balance owed and part of the interest due on the remaining balance; from this teaching, one of ordinary skill in the art would know that the total repayment, which is the same as money B, is the sum of capital K and total interest M, or B=K+M).

Examiner notes however, UNA does not teach processing of an additional amount of money L indicative of the risk of loss borne by the lender; and mathematical combination, according to a given formula, of the aforementioned quantity of money K, extra yield M and amount of money L, in order to obtain a quantity of money B.

Ronald teaches processing of an additional amount of money L indicative of the risk of loss borne by the lender (see fourth paragraph of full text, "The finance charge...including pre-paid interest and the charges payable by the borrower such as points, loan fees, origination fees, and application fees to name a few"; examiner interprets that the additional charges payable by the borrower, such as points, loan fees, origination fees, and application fees, are the same as additional amount of money L, because all these fees are designed to make profits for the lender and to average out the loss in the case of borrowers default).

It would have been obvious to one of ordinary skill in the art at the time of invention to modify the reference to include processing of an additional amount of money L indicative of the risk of loss borne by the lender. Furthermore, by referencing Ronald, one of ordinary skill in the art would have known to modify UNA's total repayment formula by adding the additional amount of money L to K and M, or B=K+M+L).

One of ordinary skill in the art would have been motivated to modify the reference in order to protect lender from the risk of loan loss.

As per claim 21, UNA teaches wherein the aforementioned combination is an addition of the quantity of money K with extra yield M and amount of money L (please refer to claim 20).

As per claim 29, UNA does not explicitly teach wherein the term to be found, such as additional amount of money L, is made explicit through an analytical solution.

Ronald implies that additional amount of money L, is made explicit through an analytical solution (see fourth paragraph of full text; examiner interprets that the additional charges payable by the borrower, such as points, loan fees, origination fees, and application fees, are the same as additional amount of money L, because all these fees are designed to make profits for the lender and to average out the loss in the case of borrowers default; it is inherent that these fees are calculated through some sort of analytical solution).

It would have been obvious to one of ordinary skill in the art at the time of invention to modify the reference to include additional amount of money L, is made explicit through an analytical solution.

One of ordinary skill in the art would have been motivated to modify the reference in order to accurately calculate the appropriate additional amount of charge which protects lender from risk of loss yet keeps payment attractive enough to the borrower.

As per claim 30, UNA does not explicitly teach wherein the term to be found, such as additional amount of money L, is made explicit through numerical methods or with the aid of error functions.

Ronald implies additional amount of money L, is made explicit through numerical methods or with the aid of error functions (see fourth paragraph of full text; examiner interprets that the additional charges payable by the borrower, such as points, loan

fees, origination fees, and application fees, are the same as additional amount of money L, because all these fees are designed to make profits for the lender and to average out the loss in the case of borrowers default; it is inherent that these fees are calculated through some sort of numerical methods).

It would have been obvious to one of ordinary skill in the art at the time of invention to modify the reference to additional amount of money L, is made explicit through numerical methods or with the aid of error functions.

One of ordinary skill in the art would have been motivated to modify the reference in order to accurately calculate the appropriate additional amount of charge which protects lender from risk of loss yet keeps payment attractive enough to the borrower.

As per claim 31, UNA does not explicitly teach wherein the extra yield M and additional amount of money L are expressed as a percentage of K, respectively extra interest rate iM = M / K and additional interest rate iL = L / K.

Ronald teaches the extra yield M and additional amount of money L are expressed as a percentage of K, respectively extra interest rate iM = M / K and additional interest rate iL = L / K (Ronald teaches the well known concept of APR, which calculates the relative costs of the loan as a percentage of loan amount or capital K; APR calculates the percentage of total cost, which include interest M and additional financial charge or fee L, to the capital, APR=iM + iL; since the interest rate must be disclosed to borrower by law, the additional interest rate iL = L/K can be easily calculated by subtracting iM from APR; it is well known that APR is expressed as a percentage of K, and therefore it would have been obvious that M and L are also expressed as a percentage of K).

It would have been obvious to one of ordinary skill in the art at the time of invention to modify the reference to include extra yield M and additional amount of money L are expressed as a percentage of K, respectively extra interest rate iM = M / K and additional interest rate iL = L / K.

One of ordinary skill in the art would have been motivated to modify the reference in order to allow borrower to have a clear idea about the amount of financial charge.

Claim 22, and 32-34 are rejected under 35 U.S.C. 103(a) as being unpatentable over UNA (UNA McCaffrey, Be wary of interest-only, Jun 27, 2002, Irish Times, pg. 58), in view of Ronald (Ronald Field, Mysteries revealed in buying a home, Oct 23, 1994, The Salt Lake Tribune, pg. F.4), and further in view of Official Notice.

As per claim 22, UNA teaches wherein extra yield M and amount of money L are each multiplied with a term (1 - λ) representing the eventual applicable taxes, before being added.

Official Notice is taken that applying taxes into the calculation of interest and profit is old and well known in the art. Interest income is subject to taxation.

It would have been obvious to one of ordinary skill in the art at the time of invention to modify the reference to include extra yield M and amount of money L are each multiplied with a term (1 - λ) representing the eventual applicable taxes, before being added.

One of ordinary skill in the art would have been motivated to modify the reference in order to make calculation more precise in real world practice.

As per claim 32, UNA does not explicitly teach wherein extra interest rate iM is given by the sum of risk-free rate iF plus a mark-up iM for the lender for accepting the increased variability of its future revenues.

Official Notice is taken that interest rate iM is given by the sum of prime rate and additional points agreed by both lender and borrower is old and well known in the finance art. The risk-free rate is interpret as the prime rate and the mark-up interest rate is interpret as the additional points

It would have been obvious to one of ordinary skill in the art at the time of invention to modify the reference to include extra interest rate iM is given by the sum of risk-free rate iF plus a mark-up iM for the benefit of making profit to the lender and protecting lender from the risk of loan loss

As per claim 33, UNA does not explicitly teach wherein the procedure has a reiteration step for significative values of the input reiteration variables, including the amount of money K.

Official Notice is take that significating or indicating values of the input variable is old and well known in the computer art. Any scientific calculator, such as Texas Instrument's TI-83 or TI-89, can perform reiteration step and indicate values of the input variable.

It would have been obvious to one of ordinary skill in the art at the time of invention to modify the reference to include wherein the procedure has a reiteration step for significative values of the input reiteration variables, including the amount of money K.

One of ordinary skill in the art would have been motivated to modify the reference in order to allow user to see the input variables.

As per claim 34, UNA does not explicitly teach wherein the output of the reiteration step is stored in a vector or list, or plotted on a graph that represents the total amount of money B(K,M,L,λ) for any significant value of the reiterative variables.

Official Notice is taken that output of the reiteration step includes plotting the solution of a formula on a graph is old and well known in the computer art. Any scientific calculator or personal computer can calculate and graph the solution.

It would have been obvious to one of ordinary skill in the art at the time of invention to modify the reference to include wherein the output of the reiteration step is

stored in a vector or list, or plotted on a graph that represents the total amount of money B(K,M,L,λ) for any significant value of the reiterative variables.

One of ordinary skill in the art would have been motivated to modify the reference in order to present the solution and variables in an easy-to-understand format.

Claim 35-36 are rejected under 35 U.S.C. 103(a) as being unpatentable over Schroeder et al. (Pub. No.: US 2003/0130883), in view of Texas Instruments (Texas Instruments, TI-89 TI-92 Plus Guidebook for Advanced Mathematics), and further in view of Ronald (Ronald Field, Mysteries revealed in buying a home, Oct 23, 1994, The Salt Lake Tribune, pg. F.4).

As per claim 35 and 36, Examiner notes that the applicant merely claims some hardware components which are common place in any modern computer or scientific calculator. Examiner points out that the contribution of the present application apparently resides only in a computer-implementation of an administrative scheme that is, to define an administrative method for calculation of interests for entrustments of money and claims which specify commonplace features relating to the technological implementation of such method.

The procedure for calculating of interests is essentially implemented by general software programming. This is used to implement an administrative scheme, without changing the underling hardware/network. The administrative scheme is essentially implemented by software programming.

From the point of view of an ordinary skill in the art, the task of programming such a system/device is per se a normal and obvious aim and already forms part from the prior art.

It appears that the implementation of a method for calculation of interests for entrustments of money is a routine programming measure well within the reach of an ordinary skill in the art.

Examiner provides three prior arts as examples to demonstrate the existing computer-implementation of a business scheme, the hardware for performing calculation, and the method of calculating interest of loan. Specifically, Schroeder teaches an existing computer-implementation of a business scheme; Texas Instruments teaches an existing hardware for performing calculation, which include all the

components claimed by the applicant; and Ronald teaches an existing method of calculating interest of loan.

It would have been obvious to one of ordinary skill in the art at the time of invention to combine the references to come up with all the features and limitations in claim 35 and 36.

One of ordinary skill in the art would have been motivated to modify the reference in order to leverage the computing power of existing hardware to perform a business scheme.

Claim 37 and 38 are rejected under 35 U.S.C. 103(a) as being unpatentable over UNA (UNA McCaffrey, Be wary of interest-only, Jun 27, 2002, Irish Times, pg. 58), in view of Ronald (Ronald Field, Mysteries revealed in buying a home, Oct 23, 1994, The Salt Lake Tribune, pg. F.4), and further in view of Schroeder et al. (Pub. No.: US 2003/0130883).

As per claim 37 and 38, UNA and Ronald when combined teach all the limitations and features in claim 20 (please see above). However, neither UNA nor Ronald explicitly teach a computer-implemented business method.

Schroeder teaches a computer program stored in a reader medium comprising program codes means suitable to perform a business scheme.

It would have been obvious to one of ordinary skill in the art at the time of invention to modify the reference to include a computer program stored in a reader medium comprising program codes means suitable to perform a business scheme.

One of ordinary skill in the art would have been motivated to modify the reference in order to leverage the computing power of existing hardware to perform a business scheme.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to HAO FU whose telephone number is (571)270-3441. The examiner can normally be reached on Mon-Fri/Mon-Thurs 7:30am-5:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Tom Dixon can be reached on (571) 272-6803. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Hao Fu/
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Mar-08